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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,418	07/07/2005	Klaus Krejci	62571(52059)	8962

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EXAMINER

YOUNG, NATASHA E

ART UNIT	PAPER NUMBER
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1797

MAIL DATE	DELIVERY MODE
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11/13/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/521,418	KREJCI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Natasha Young	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 15-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-27 is/are rejected.
- 7) ☒ Claim(s) 20,21 and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/23/2006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Drawings*

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the one edge of Claim 17; a thread of claim 18; and at least one screen, at least one turbulence grid and/or at least one perforated diaphragm of claim 20 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

The disclosure is objected to because of the following informalities: The elements 5 and "Wm", from the figures, are not defined in the specification.

Appropriate correction is required.

***Claim Objections***

Claims 21 and 23 are objected to because of the following informalities: The word "ethane" (line 1 of claim 21 and line 3 of claim 23) should be "ethene" according to the specification. Appropriate correction is required.

Claim 20 is objected to because of the following informalities: The word "turbulene" should be "turbulence". Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15-20, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Bagley et al (US 4,329,526).

Regarding claim 15, Bagley et al teaches a device for introducing gas into a fluidized bed comprising: at least one gas inlet pipe located underneath and/or above the fluidized bed, wherein the gas inlet pipe has gas-swirling means at its mouth (see Abstract; figures 1-2; and column 2, lines 26-30).

Claim 16 depends on claim 15 such that the reasoning used to reject claim 15 will be used to reject the dependent portions of the claim.

Regarding claim 16, Bagley et al teaches the gas-swirling means form at least one narrowing or widening of the pipe lumen (see Abstract and figures 1-2).

Claim 17 depends on claim 16 such that the reasoning used to reject claim 16 will be used to reject the dependent portions of the claim.

Regarding claim 17, Bagley et al teaches the narrowing has at least one edge (see figures 1-2).

Claims 18-20 and 22 depend on claim 16 such that the reasoning used to reject claim 16 will be used to reject the dependent portions of the claims.

Regarding claim 18, Bagley et al teaches the gas-swirling means comprise a thread (see figures 1-2). The examiner interprets a thread to be the narrowing of the pipe or distributor.

Regarding claim 19, Bagley et al teaches the gas-swirling means comprise at least one bead (see figure 1 and column 3, lines 59-63)

Regarding claim 20, Bagley et al teaches the gas-swirling means comprise at least one screen, at least one turbulence grid and/or at least one perforated diaphragm (see figure 3), which is the top view of the distributor of figures 1-2.

Regarding claim 22, Bagley et al teaches a fluidized reactor bed comprising a device of claim 15 (see column 3, lines 23-32 and figures 1-2).

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***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bagley et al (US 4,329,526) in view of Cowfer et al (US 6,177,599 B1).

Regarding claim 23, Bagley et al teaches a process for the production of chlorinated hydrocarbon with a fluidized bed reactor comprising a device for introducing gas, the method comprising: introducing hydrocarbon, oxygen and/or hydrogen chloride into a fluidized bed comprising a catalyst, wherein the device comprises at least one gas inlet pipe located underneath and/or above the fluidized bed and the gas inlet pipe has gas-swirling means at its mouth (see Abstract; figures 1-2; column 1, lines 18-35; and column 2, lines 26-30).

Bagley et al does not teach the oxychlorination of ethylene to 1,2-dichloroethane and ethylene, oxygen, and HCL are introduced into a fluidized bed.

Cowfer et al teaches the oxychlorination of ethylene to 1,2-dichloroethane and ethylene, oxygen, and HCL are introduced into a fluidized bed (see column 5, lines 46-59).

Cowfer et al does not teach bubble caps or distributors.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Bagley et al with the teachings of Cowfer et al to produce 1,2-dichloroethane, an important intermediate in the production of vinyl chloride monomer (see Cowfer et al column 1, lines 30-34).

Claims 24-27 depend on claim 23 such that the reasoning used to reject claim 23 will be used to reject the dependent portions of the claims.

Regarding claim 24-27, Bagley et al teaches the gas inlet pipe is arranged underneath the fluidized bed (see figure 1) and a regulated gas velocity (see column 5, lines 33-34).

Bagley et al does not teach the gas current is discharged at an average discharge velocity in the range of from 0.5 to 10 m/s.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to regulated the gas current such that an average discharge velocity is in the range of from 0.5 to 10 m/s, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Eril et al (US 6,417,414 B1), Throckmorton et al (US 2,507,325), and Thayer (US 2,191,919).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natasha Young whose telephone number is 571-270-3163. The examiner can normally be reached on Mon-Thurs 7:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NY

  
WALTER D. GRIFFIN  
SUPERVISORY PATENT EXAMINER